

How HHAs Work

The diagram illustrates the process of HHAs (Hydrogel-based Heteroatom-based Antigen Assays) working. It shows the formation of a "Complex" and the subsequent wicking of the sample into the device, leading to the formation of red lines on the test and control lines.

Components and Labels:

- Colloidal Gold**: Represented by a red circle.
- Detector Antibody**: Represented by a green Y-shaped structure.
- BW Agent**: Represented by a blue square.
- Complex**: The assembly of Colloidal Gold, Detector Antibody, and BW Agent.
- Test Line**: The line where the complex interacts with the sample.
- Control Line**: The line used for quality control.
- Capture Antibody**: The antibody immobilized on the test line.
- Red Lines Form**: The result of a positive test, indicated by red lines on the test and control lines.
- Direction of Wicking**: Indicated by a large red arrow pointing towards the test lines.
- 15 Minutes**: The time taken for the wicking process.

The diagram illustrates the HHA assay procedure and results. On the left, a list of steps is provided:

1. Allow HHA to Come to Room Temperature
2. Add Sample to Assay
3. Read After 15 Minutes

The central part of the diagram shows a cross-section of the assay strip. A pipette is shown adding a sample to the 'Sample' well. The strip contains a 'Conjugate Release Pad' with blue Y-shaped 'Antibody' molecules. A 'Test Line' is visible on the 'Flowstrip'. The strip is mounted on 'Plastic Backing'.

On the right, two test results are shown after 15 minutes:

- Positive:** The test strip shows two distinct purple lines, one in the 'T' (Test) position and one in the 'C' (Control) position.
- Negative:** The test strip shows only one purple line in the 'C' (Control) position, with no line in the 'T' (Test) position.

PE-CBD

**Program Executive Office for
Chemical and Biological Defense**

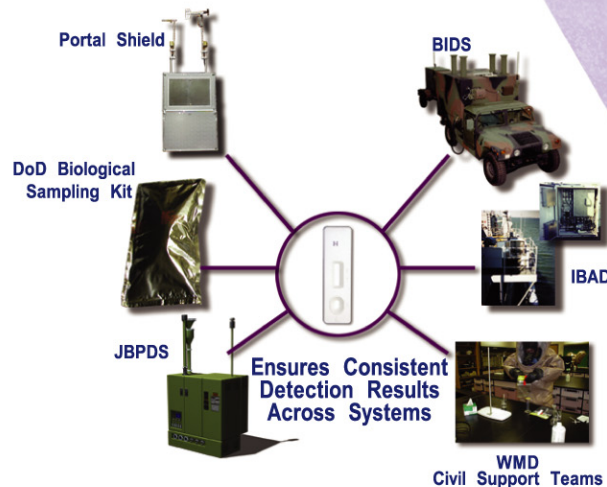
Phone: (703) 681-9600
DSN: 761-9600
Fax: (703) 681-3454/3439

Please visit us on our web site at:
<http://peocbd.saalt.army.mil>

Critical Reagents Program (CRP)

Established in FY97

High quality reagents form the cornerstone of biological detection platforms. The Critical Reagents Program (CRP) is committed to the development, large-scale production, and integration of the highest quality reagents for the Department of Defense. These products comprise a key element of biological warfare (BW) agent detection, identification, confirmation and characterization. Critical Reagents Program products such as antibodies, antigens, Polymerase Chain Reaction assays, hand held assays, and sampling kits are crucial to the mission of all current and future BW agent detection and medical diagnostic systems. As a supporting program of all Biological Defense systems and a provider of stand-alone detection products, the Critical Reagent Program supports the warfighter, the Homeland Defense effort, and the nation and is an integral provider of the highest quality biological defense components.



The HHA

- Identifies BW agents in Suspect Samples
- Biological Reconnaissance/Survey Capability
- Quick Initial DoD 1st Responders Tool
- Screen Suspect Packages, Munitions, Surfaces
- Same Format as Home Pregnancy Test
- Antibody - Based
- Highly Specific for Each Target Agent
- Shelf Life
 - > 2 Years at 4°C (Refrigerated)
 - > 6 Weeks Unrefrigerated
- Simple - Single Step Operation
- Fast - Develops in 15 Minutes
- Reliable
 - Rigorous QA/QC Testing
 - < 0.01% False Alarm Rate during Operation Noble Eagle and Operation Enduring Freedom



- Inexpensive
- Disposable - Single Use
- Not for Diagnostic Use/Never Used as Sole Basis for Identification
- The DoD Biological Sampling Kit Consist of:
 - Panel of Up to 8 HHAs
 - Dropper Bottle of Buffer Solution
 - Sterile, Cotton-Tipped Swabs
 - Laminated Instruction Card That Can be Used to Measure Sample Area 10x10 cm Cut-Out
- Comprehensive, Interactive Training CD-ROM is available upon request

How to get it

- Assays are available for Federal Agencies through the Army Supply Requisition Systems (Rock Island Army Arsenal)
- DOD Sampling Kit, Operational "Top 8" Agents
NSN 6665-01-494-8725
- DOD Sampling Kit, Training, 7 Negative/ 1 Positive Position
NSN 6665-01-497-7811,
- Both Kits are \$59.39
- Item Manager at Rock Island:
Brenda Hanes DSN: 793-6023
Comm: (309) 782-6023
Email: hanesb@ria.army.mil